

WHAT IS CLAIMED IS:

- 1                   1. A transducer positioning apparatus comprising:  
2                   a frame;  
3                   a first carriage movably associated with the frame and having a guide  
4 member;  
5                   a second carriage that is movable with respect to the guide member  
6 between multiple positions relative to the guide member;  
7                   a transducer mounted on the second carriage;  
8                   an anti-rotation member associated with the second carriage for  
9 inhibiting rotational movement of the second carriage as the second carriage moves  
10 with respect to the guide member; and  
11                  an actuator associated with the second carriage, the actuator being  
12 operative to move the second carriage with respect to the guide member to a selected  
13 position of the multiple positions and to move the first carriage and the second  
14 carriage relative to the frame to locate the transducer in a desired position.
- 1                   2. The apparatus of claim 1 wherein the first carriage includes a first  
2 carriage body, the guide member includes an elongated guide body fixed to the first  
3 carriage body, and the second carriage is movable along the guide member between  
4 the multiple positions.
- 1                   3. The apparatus of claim 1 wherein the guide member is positioned  
2 between the transducer and the anti-rotation member.
- 1                   4. The apparatus of claim 1 wherein the anti-rotation member is  
2 fixed to the second carriage.
- 1                   5. The apparatus of claim 4 wherein the first carriage includes an  
2 additional anti-rotation member that is slidable along the anti-rotation member.

1                   6. The apparatus of claim 1 further comprising first and second  
2   spring members that each have first and second ends attached to the frame, and  
3   wherein the first carriage is suspended from the frame by the spring members.

1                   7. The apparatus of claim 6 wherein each spring member comprises  
2   a leaf spring.

1                   8. The apparatus of claim 1 wherein the second carriage includes  
2   first and second guide elements that are movable along an axis of the guide member,  
3   and wherein a plane bisecting the transducer extends between the guide elements and  
4   generally perpendicular to the axis.

1                   9. The apparatus of claim 1 wherein the actuator includes an actuator  
2   portion attached to the second carriage, and wherein the first carriage, second  
3   carriage and actuator portion cooperate to at least partially define a suspended mass  
4   having a center of mass that is generally axially aligned with the guide member.